

## **CLAIMS**

What is claimed is:

1. A method of allocating a plurality of computing resources among a plurality of users, comprising:
  - collecting a plurality of performance data;
  - applying a plurality of policy rules to the collected performance data;
  - analyzing the collected performance data to determine if there exists an actionable item;
  - if an actionable item exists, applying a plurality of metrics to filter the collected performance data; and
  - automatically allocating the computing resources by at least one action based on the actionable item: upgrading a component, replacing the component, upgrading the computing resource, and replacing the computing resource.
2. The method of claim 1, wherein the collected performance data comprises a time percentage in which the computing resource is engaged in an excessive paging activity.
3. The method of claim 1, wherein the collected performance data comprises a time percentage in which the computing resource is engaged in an excessive CPU utilization.
4. The method of claim 1, wherein the collected performance data comprises a time percentage in which the computing resource is constrained by input/output devices.

5. The method of claim 4, wherein the collected performance data comprises an association of a plurality of time percentages with an application process operating on the computing resource.
6. The method of claim 1, wherein collecting the performance data comprises logging a plurality of events occurring on the computing resource.
7. The method of claim 1, wherein collecting the performance data comprises logging a plurality of errors experienced by the computing resource.
8. The method of claim 1, wherein the plurality of metrics comprise a job description of a user.
9. The method of claim 1, wherein the plurality of metrics comprise a job level of the user.
10. The method of claim 9, wherein the plurality of metrics comprise an allowable component performance of the component correlated with a user's job description and level.
11. The method of claim 9, wherein the plurality of metrics comprise an allowable system performance of the computing resource correlated with a user's job description and level.

12. A method for identifying an optimum allocation of a plurality of component resources and a plurality of computing resources amongst a plurality of users, the method comprising:

specifying a set of requirements for the optimum allocation of the component resources and the computing resources;

identifying a first set of metrics that indicate a performance level at which a component resources and computing resources are replaced;

identifying a second set of metrics that indicate a performance level at which the component resources and the computing resources are upgraded;

correlating the first set of metrics and the second set of metrics with a user's job description and level to create a metrics table;

invoking an automatic hardware allocation utility, wherein the first set of metrics, the second set of metrics and the metrics table are made available to the automatic hardware allocation utility for consideration; and

receiving an optimum allocation of the component resources and the computing resources from the automatic hardware allocation utility, wherein the specified set of requirements are satisfied.

13. The method of claim 12, further comprising collecting a plurality of performance data; and

wherein the collected performance data comprises an association of a plurality of time percentages with an application process operating on the computing resource.

14. The method of claim 13, wherein collecting the performance data comprises logging a plurality of events occurring on the computing resource.

15. The method of claim 13, wherein collecting the performance data comprises logging a plurality of errors experienced by the computing resource.

16. The method of claim 12, wherein any one of the first set of metrics and the second set of metrics comprises a job description of a user.

17. The method of claim 12, wherein any one of the first set of metrics and the second set of metrics comprises a job level of the user.

18. The method of claim 17, wherein any one of the first set of metrics and the second set of metrics comprises an allowable component performance of the component correlated with a user's job description and level.

19. The method of claim 17, wherein any one of the first set of metrics and the second set of metrics comprises an allowable system performance of the computing resource correlated with a user's job description and level.

20. The method of claim 13, further comprising  
analyzing the collected performance data to determine if there exists an actionable item;  
if an actionable item exists, applying a plurality of metrics to filter the collected performance data; and  
automatically allocating the computing resources by at least one action based on the actionable item: upgrading a component, replacing the component, upgrading the computing resource, and replacing the computing resource.

21. A system for allocating a plurality of computing resources among a plurality of users, comprising:
- a performance agent that collects a plurality of performance data and that applies a plurality of policy rules to the collected performance data;
  - a resource allocator analyzes the collected performance data to determine if there exists an actionable item;
  - if an actionable item exists, a resource identification module applies a plurality of metrics to filter the collected performance data; and
  - the resource allocator automatically allocates the computing resources by at least one action based on the actionable item: upgrading a component, replacing the component, upgrading the computing resource, and replacing the computing resource.
22. The system of claim 21, wherein the collected performance data comprises a time percentage in which the computing resource is engaged in an excessive paging activity.
23. The system of claim 21, wherein the collected performance data comprises a time percentage in which the computing resource is engaged in an excessive CPU utilization.
24. The system of claim 21, wherein the collected performance data comprises a time percentage in which the computing resource is constrained by input/output devices.
25. The system of claim 24, wherein the collected performance data comprises an association of a plurality of time percentages with an application process operating on the computing resource.

26. The system of claim 21, wherein the performance agent logs a plurality of events occurring on the computing resource.
27. The system of claim 21, wherein the performance agent logs a plurality of errors experienced by the computing resource.
28. The system of claim 21, wherein the plurality of metrics comprise at least one of a job description of a user, and a job level of the user.
29. The system of claim 28, wherein the plurality of metrics comprise an allowable component performance of the component correlated with a user's job description and level.
30. The system of claim 28, wherein the plurality of metrics comprise an allowable system performance of the computing resource correlated with a user's job description and level.